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APR

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/941,725 | 08/30/2001 | Masahiko Amano | 381AS/50354 | 7142 |
| 7590 | 03/31/2004 | | EXAMINER | |
| CROMWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON,, DC 20044-4300 | | | RILEY, SHAWN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2838 | |

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/941,725 | AMANO ET AL. | |
| | Examiner | Art Unit | |
| | Shawn Riley | 2838 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on *rce filing*.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 3,4,6 and 7 is/are allowed.

6) Claim(s) 1,2,8 and 9 is/are rejected.

7) Claim(s) 5 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsumi et al. (JP 06-346747), and further in view of Mamoru (JP 2000-283011).

Katsumi et al. describe the invention as claimed as described below however Katsumi does not specifically recite a double-layered capacitor. Mamoru recites the use of a double-layered capacitor. It would have been obvious to use the double-layered capacitor of Mamoru into the circuit of Katsumi et al. for the reason of providing a capacitor with heavier power draw ability to match closely what the draw may be on a battery so that the load will function equivalently to battery supplied.

As to claim 1;

Power supply equipment for a motor vehicle(see line 4 of abstract), comprising a motor generator (2), an inverter (4) for driving said motor generator (see, e.g., paragraphs 9-11, figure 1 and paragraph 1), a battery (3) and a capacitor (5) of an electrical double layer (see above 103 rejection), wherein said capacitor is directly connected to a DC side of said inverter and said battery is connected in parallel with said capacitor via first switching (see figure 1) means for controlling an electrical connection between the battery and the capacitor.

As to claim 2;

The power supply equipment for a motor vehicle according to claim 1, further comprising: control means (3) for turning off said first switching means in the start-up (see paragraph 15 of Katsumi et al) of an engine (2) to separate said battery from said capacitor and for turning on said first switching means after the start-up of the engine to connect said battery to said capacitor (that is, when operating TCG2 at step 2, in order to progress to step 3 and to use the charge of a capacitor 5 preferentially in start, when a charge condition is confirmed at step 4 and there are charges of enough, the B relay 7 is turned OFF at step 5, it energizes from a capacitor 5 and the electric drive of TCG2 is performed (step 6), after that, the B relay 7 is closed and a dc-battery 3 is used (steps 7 and 8).

As to claim 8 (and likewise 9)

Power supply equipment for a motor vehicle (see abstract), comprising a motor generator (2,11/12), an inverter (4) for driving said motor generator, a battery (3) and a capacitor (5) of an electrical double layer (see 103 rejection above), wherein said battery has a plurality of different (higher and lower) voltage terminals; said capacitor being directly connected to a DC side of said inverter; said capacitor being connected on its higher voltage side to a higher voltage terminal of said battery via first switching means (8/7); and said capacitor

being connected on its higher voltage side to a lower voltage terminal of said battery via second switching means (7/8).

Allowable Subject Matter

1. Claims 3-4, and 6-7 are allowable.
4. Claims 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 C.F.R. § 1.111(b) and section 707.07(a) of the M.P.E.P.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 703.305.3487. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 703.308.1680. Any inquiry about a case's location, retrieval of a case, receipt of an amendment into a case or sending in correspondence to a case via fax should be directed to 2800's Customer Service Center at 703.306.3329. The fax phone number for this Group is 703.305.7731 or 7732. Any inquiry of a general nature of this application should be directed to the Group receptionist whose telephone number is 703.308.1782.



Shawn Riley
Primary Examiner